

A.A.A.S. BULLETIN

VOL. 4

SEPTEMBER, 1945

No. 9

Published monthly by the American Association for the Advancement of Science. Office of Publication, North Queen St. and McGovern Ave., Lancaster, Pa. Editorial and Business Office, Smithsonian Institution Building, Washington 25, D. C., to which office all communications should be addressed.

Edited by F. R. Moulton and Sam Woodley.
Single copy, 10 cents; annual subscription, \$1.00.
Entered as second-class matter at Lancaster, Pa., March 24, 1942, under the Act of August 24, 1912.

A New Home for the Association

For several years the problem of providing a new home for the Association has been under consideration by the Executive Committee. The office space generously provided by the Smithsonian Institution for many years has been entirely outgrown and no additional space is available in its building. At present the offices of the Association are not only small and greatly overcrowded, but they are distributed from the second floor of the main building to the ninth floor of the tower.

Last spring the Executive Committee directed the officers of the Association to investigate the possibilities of renting office space, purchasing a suitable building, or securing funds for constructing a new building. Under the conditions that have existed and still exist it has been, and still is, impossible to rent suitable office space in Washington, and only two buildings for sale have been found that could be remodeled so as to be usable, and in both cases the cost would be very high and the results unsatisfactory. Since the securing of office space is urgent, in June the Executive Committee directed the officers to draw up a prospectus for securing funds adequate for purchasing a suitable building or constructing a new one as soon as conditions are favorable.

A preliminary prospectus was prepared in July and an uncorrected proof of it was sent to each of the 258 members of the Council for their suggestions and criticisms. Many valuable suggestions and criticisms have been received and good use of them has been made in revising the prospectus. In some respects the original draft was not clear and a few suggestions were made under

misapprehensions regarding the facts. It is quite natural that because of the distractions of the war and the lack of regular meetings the members of the Association should not realize fully its increase in membership and the progress it has been making in various ways.

It is impossible under existing conditions to answer adequately all members of the Council who have taken the time to make criticisms and suggestions on the unfolding plans of the Association for a new home and greater service to science. But since the questions that were asked and the few misapprehensions that existed may arise in the minds of other members, a number of them will be quoted and comments will be made upon them with the hope that these explanations will clarify the prospectus.

1. "I am a little disappointed to see the proposed location of the building in Washington. I believe that New York would be a much better location." Several other places for the home of the Association were also proposed, including Boston, New Haven, Cleveland, Indianapolis, Chicago, St. Louis, and San Francisco.

Since the Association has relations with all branches of science, it is important that its home be in a great scientific and cultural center. In that respect Washington easily stands first among American cities. In it are located the National Academy of Sciences, the National Research Council, the Brookings Institution, the American Chemical Society, the Council of Learned Societies, the National Bureau of Standards, the American Pharmaceutical Association, more than thirty local scientific societies, the National Education Association, the Library of Congress, the great scientific departments of the Government, several universities, etc. Since Washington is not an industrial city its scientific and cultural activities are not as widely scattered as they are in other great centers. The fact that there are more than 1,500 members of the Association in Washington and its immediate environs is evidence that it is a great scientific center. Besides it is a city which many of the country's foremost scientists have occasion to visit from time to time. Of course, the cost of

living is high in Washington, particularly in time of war, and the summer climate is reputed to be trying. However, the best place for a home of the Association is debatable.

2. "I am fully in sympathy with the Association having an adequate home where it can offer facilities not only for handling routine problems, including its editorial functions, but where meeting room provisions can be made available to a wide variety of agencies."

This remark from the president of an important educational institution is quite in line with the ideas Dr. George E. Hale had when he developed plans for the National Academy of Sciences building. He intended it to be also the home of the Association and a great center for the administration of scientific activities in this country, such as Burlington House is in London. That is the present plan of the Executive Committee on a somewhat more limited scale. The Association would expect to offer office space and probably a suitable meeting room to the smaller affiliated societies which have no permanent quarters of their own. It could not, of course, provide space for such great societies as the American Chemical Society and the National Education Association, which occupy very large permanent buildings.

The foregoing statement will also answer the following question from the secretary of an important affiliated society: "Would it be possible to have the new building house the offices of national societies? The plan might be to have offices on a rental basis, on the basis of a lump contribution (say on a cubage basis) from a society affiliated with the Association, or a lump sum plus a pro rata maintenance charge." Since the Association is a nonprofit organization it would make such arrangements on a cost basis. It evidently would be appropriate for societies desiring such accommodations or a place in which to keep their permanent records and journal files to make such a contribution to the project as might be feasible. A retired professor of botany wrote: "I wish the Association had enough space in a new building to house the archives of its less fortunate smaller associates and affiliates who now cart their historical papers from one secretarial office to another, always with damage or loss of important documents."

3. The secretary of another important affiliated society wrote along somewhat similar lines as follows: "Why not develop the idea that associated and affiliated societies should appropriate to the Association the sums they're willing and able to put into the pot for all science. Why not be 'George,' who ought to tell the hungry and

thirsty what's cooking in science. Then put out on the news stands an authoritative—no retractions, no hysteria, no garbling—lay periodical of 'All the science that's fit to print.' I have been peddling the idea that the Association can take care of this on a balanced diet basis rather than all geology, all botany, all physics, etc. This would be what *everybody* wants somebody else ('George') to do!"

4. "The essential point, as I see it, is to have adequate space to meet the needs . . . , but if such space can be obtained on a rental basis in some of the many wartime buildings that, presumably will be released for private use after the war is over. . . ."

The Federal Government does not release its buildings for private use under any conditions. It has been announced that all the temporary governmental buildings will be removed. "Adequate space" for the Association is somewhat greater than is sometimes realized. The Association, with 16 sections and 192 affiliated and associated societies, probably has a more complex administrative machine to operate than any other scientific society. Next year more than 150,000 pieces of mail will be sent out from its offices, including about five tons of books. Nearly an equal number of pieces of mail will be received. About 35,000 checks will be received, recorded, and deposited. As an illustration of heavy work that one would not foresee, last year there were about 6,000 changes of address, each requiring a new master file card, a new addressograph plate in the office, a new addressograph plate at the printers, and an average of two letters, or a total of 30,000 items to be cared for. This year the number of changes of address will be still greater. The Association receives and sends out mail several times a day, and at certain times of the year should deposit checks daily.

This immense volume of business can be conducted only with very great difficulty in the five small rooms and the larger storeroom it now occupies, and with the taking over of the editing of *Science* at the end of this year the space will be wholly inadequate. That journal of more than 25,000 words of text per issue and about 20 pages of advertising must be brought out every seven days.

5. "My own feeling is that the scientists of the country have contributed their time and energies during the war period so effectively that the Government and industry should be willing to recognize the need of the Association for a home, and provide it."

There can be no question that scientists have

served the country wholeheartedly and effectively during the war period, but so have farmers and every other class of honorable citizens. The officers of the Association feel that the Association should not appeal to the Government for aid but should continue to operate under its own power. Then it will remain independent and self-reliant and vigorous. As to support from industrial laboratories, suggested by several writers, it will undoubtedly be generously given. The industries, mostly without solicitation, gave all the funds for establishing the Gibson Island Research Conferences, a total of \$33,000.

6. "Contributions at the rate of one percent of annual income may seem a little ambitious to many of our members who are facing the present income taxes without increased income." That formula is nothing more than a suggestion, and each individual is, of course, expected to decide for himself the amount of his gift. An amount that a person would regard as reasonable for himself depends upon many factors, including his judgment of values. Beyond the necessities, there are various semiluxuries, such as the theatre, travel, membership in clubs, and the like, in which we normally indulge, not once but year after year. Some scientists forego luxuries at times for the purchase of books or scientific apparatus or to subscribe for scientific journals or to attend scientific meetings. A contribution to the Association for a home will be only once in a lifetime. It is hoped that a contribution for this purpose will not be regarded as a duty but as an opportunity to do something which will be of permanent value. It would be an unparalleled triumph and irrefutable evidence of the altruism of scientists if every member of the Association would make some contribution, even one dollar, toward providing it a home. The formula of one percent of income for one year is suggested because if, on the average, it is followed, the amount received will be sufficient.—

F. R. M.

Finances of the Association

In the April issue of the BULLETIN a brief discussion of the finances of the Association in past years was presented. These considerations will be reviewed and summarized because of their bearing upon the problem of financing a home for the Association.

Several members of the Council have suggested that the Association might use its permanent funds to finance, in part, the acquisition or construction of a permanent home. There is one insuperable difficulty to this suggestion: The permanent funds, in large part, have been given

for specific purposes which cannot be changed; and most of the remainder has been derived from life membership dues, the income from which, under Article X of the Constitution, can be used only in support of scientific research. That leaves available for such purposes as providing offices for the Association only the accumulated balances from operations of the office of the permanent secretary.

In 1937 the Association had completed its first 90 years. At that time the accumulated balance from operations from the time of its founding until September 30, 1937, amounted to less than \$15,000. That was the situation seven years ago when the Executive Committee began to discuss acquiring a permanent home for the Association. Lest the situation be regarded as discouraging, it should be remarked at once that the financial condition of the Association has greatly improved in the past few years.

Perhaps an explanation of the reasons why the Association had an accumulated operating balance of less than \$15,000 in 90 years will aid in understanding present conditions and forecasting the future. In the first three years after the Association was founded the annual dues for membership were one dollar. From 1851 to 1874 the annual dues were two dollars, and three dollars from 1874 to 1920. In 1900 the total membership of the Association was 1,925. In that year *Science* became the official journal of the Association, and two dollars of each member's annual dues were used in paying for a subscription to *Science* (or *The Scientific Monthly*, after 1915). In 1920 the dues of members were increased to five dollars per year, of which three dollars were for subscriptions to *Science* or *The Scientific Monthly*, leaving only two dollars per member available for all operating expenses.

Since the membership of the Association ranged from 461 in 1848 to 1,925 in 1900, it is clear that in this period the total income of the Association available for meeting operating expenses amounted at the most, and only for the later years, to between \$5,000 and \$6,000 per year. After 1900 the membership increased but until 1920 only one dollar of the dues, after paying for subscriptions for the journals, remained for operating expenses, and only two dollars remained after 1920. With the increasing membership between 1920 and 1937 the balance of income available for operating expenses increased to over \$30,000 per year.

What became of the income of the Association that was left after paying journal subscriptions for its members? The largest item was the expenses of the Office of the Permanent Secretary,

including pay of employees, purchase and maintenance of equipment, supplies, postage, printing and stationery, and telephone and telegraph. Other important items were circularization for new members, Executive Committee travel, meetings of the Association, and division allowances. Of the two dollars of membership dues remaining after subscriptions for journals, one dollar for each member in the Pacific and Southwestern division areas is allocated to the offices of the respective divisions for operating expenses, with only one dollar remaining for the central office expenses. This current year the allowances to the divisions will amount to about \$3,500.

Unlike other societies, the Association pays not only its own expenses at its meetings but it bears all the general expenses for facilities of all the affiliated and associated societies which meet with it, the annual gross cost of which from 1933 to 1939 ranged from \$7,752 to \$9,864. It has been these various expenses which together have almost completely used up the \$2 of membership dues remaining after paying subscriptions for *Science* or *The Scientific Monthly*.

There are several reasons why the finances of the Association have been more favorable during the past eight years. One is that it was not possible to hold meetings in 1942 and 1943, although over \$3,000 was spent in preparation for a meeting in New York City in 1942, which had to be canceled. The principal reason, however, for a more favorable operating balance is that the membership has increased by about 50 percent while there has been a much smaller increase in operating expenses in spite of a general rise in prices. Another reason is that members have cooperated in promptly paying their dues, in nominating friends for membership, and in donating back numbers of their journals for new members when the limited stocks have been exhausted. During the past year ten times as many direct applications for membership in the Association have been received as were received in similar periods eight years ago. The final and most important reason for increased operating balances is that since January 1, 1943, the Association has been editing and publishing *The Scientific Monthly*, and has had all financial responsibility for the publishing of *Science* since Dr. Cattell's death on January 20, 1944. However, the journals are costly; the cost of printing and mailing *Science* this year will exceed \$60,000 and over 76 tons of paper will be used.

The following table presents a summary of accumulated operating balances (excess of receipts over expenses) at the close of each fiscal

year beginning with 1937. The first item is the total accumulated excess of income over operations for the 90 years from 1848 to September 30, 1937. The following five items in the first column are the corresponding figures down to, and including, 1942. In 1943 the Association acquired *The Scientific Monthly* on the payment to Dr. Cattell of \$9,504, as set forth in the second column. The third column gives the operating balance after \$9,504 had been deducted from the accumulated operating balance of that year. The amount in the third column is available for any purpose the Council may determine. The last line is similar, except that the capital expenditure of \$40,849 in the second column was made in connection with the settlement of outstanding accounts relative to *Science* with Dr. Cattell's estate and includes the annuity from January 20, 1944, to the close of the calendar year. The settlement of outstanding accounts is nonrecurring; the annuity of about \$20,000 a year will continue until January 20, 1954.

Sept. 30 1937, to Dec. 31, 1944	Accumulated Operating Balance	Capital Expendi- tures	Balance after Capital Expenditures
1937	\$ 14,925	.....	\$14,925
1938	19,952	.....	19,952
1939	19,021	.....	19,021
1940	35,289	.....	35,289
1941	38,482	.....	38,482
1942	39,942	.....	39,942
1943	48,394	\$ 9,504	38,890
1944	100,387	40,849	59,538

Conditions for the immediate future are not quite so rosy as might be inferred from a hasty glance at the foregoing table. In the first place, all of the equipment of the Association is very old and must be replaced and additional equipment must be acquired as soon as it can be purchased. These items will involve an expenditure of at least \$10,000. In the second place, it will be absolutely necessary to rent additional space, particularly for editorial and advertising offices for *Science*, until a home for the Association can be provided. In the third place, there will have to be substantial additions to the office staff, partly because of rapidly increasing work and partly because, with the close of the war, the taking of vacations should be resumed. However, although the margin of safety is not large, there appear to be no difficulties that cannot be met with continuing rigid economy, particularly if the members and friends of the Association cooperate in providing it a home that will be adequate for its needs and commensurate with its opportunities.—F. R. M.

Atomic Power and Responsibility

Under the compelling stimulus of war, the first major application of the release of atomic force has been in an instrument that raises by an unimaginable dimension our ability to dole out death. We can be devoutly grateful that the scientific leadership of the Allies, and particularly the industrial strength of the United States, brought to us, rather than to our enemies, priority in the development of this dread weapon. But even in its present infant phase, it is clear that ownership of the principle of the atomic bomb carries a trusteeship of terrifying gravity.

We hold in trust a power that is capable of unraveling the very fabric of our civilization. Equally, it may be susceptible of development as a mighty force for human welfare. But we have proved the destructive use, while the constructive applications are still in the realm of speculation.

Clearly the trust is of a magnitude that transcends national jurisdiction. No walls have ever been built high enough to fence in the spread of scientific knowledge, and even if we were resolved to forego the harnessing of atomic power for peace, it is hopeless to think that its application for war can be held for long as the monopoly of one, or a small group of nations.

At one giant stride our scientific and technological development has so far outdistanced our social engineering, that we have no choice but to turn our full powers of creative imagination to control the forces we have unleashed and to bend them to man's use rather than to his destruction.—From *The Atom* by JAMES H. McGRAW, JR.

Atomic Energies Anticipated

In 1897 Lord Kelvin delivered the annual address of the Victoria Institute in London on "The Age of the Earth as an Abode Fitted for Life." This address was first printed in the *Philosophical Magazine* and reprinted in *Science* (vol. 9, pp. 666-674, 704-711, 1899). In this address Lord Kelvin presented arguments in support of the opinion that the earth had been fitted for life only a few tens of millions of years.

Almost immediately Professor T. C. Chamberlin, of the University of Chicago, published (*Science*, vol. 9, pp. 889-901; vol. 10, pp. 11-18) a vigorous and challenging reply to Lord Kelvin. The entire reply was masterly. The following quotation from it is particularly interesting now that atomic energies have suddenly become of great practical, as well as theoretical, importance.

Here is an unqualified assumption of the completeness of the Helmholtzian theory of the sun's heat and of

the correctness of deductions drawn from it in relation to the past life of the sun. There is the further assumption, by implication, that no other essential factors entered into the problem. Are these assumptions beyond legitimate question? In the first place, without questioning its *correctness*, is it safe to assume that the Helmholtzian hypothesis of the heat of the sun is a *complete theory*? Is present knowledge relative to the behavior of matter under such extraordinary conditions as obtain in the interior of the sun sufficiently exhaustive to warrant the assertion that no unrecognized sources of heat reside there? What the internal constitution of the atoms may be is yet an open question. It is not improbable that they are complex organizations and the seats of enormous energies. Certainly, no careful chemist would affirm either that the atoms are really elementary or that there may not be locked up in them energies of the first order of magnitude. No cautious chemist would probably venture to assert that the component atoms, to use a convenient phrase, may not have energies of rotation, revolution, position and be otherwise comparable in kind and proportion to those of a planetary system. Nor would he probably feel prepared to affirm or deny that the extraordinary conditions which reside in the center of the sun may not set free a portion of this energy. The Helmholtzian theory takes no cognizance of latent and occluded energies of an atomic or ultra-atomic nature. A ton of ice and a ton of water at a like distance from the center of the system are accounted equivalents, though they differ notably in the total sum of their energies. The familiar latent and chemical energies are, to be sure, negligible quantities compared with the enormous resources that reside in gravitation. But is it quite safe to assume that this is true of the unknown energies wrapped up in the internal constitution of the atoms? Are we quite sure we have yet probed the bottom of the sources of energy and are able to measure even roughly its sum-total?

The foregoing words express in part the point of view on which a theory of the origin and evolution of planets was developed as an interstellar process extending across periods of time theretofore not considered.

Industry and Science

In the belief that scientists as a whole want to know more about the role which American industry plays in science, the Association has undertaken a partial survey of scientific activities sponsored by industrial laboratories. It was recognized that these laboratories, which numbered 2,264 in 1940 (Seventh Edition of the National Research Council's Bulletin, No. 104, entitled *Industrial Research Laboratories of the United States*), represent the most progressive element in American industry and, presumably, the element which is advancing science and technology most rapidly. But there is a growing recognition of the commercial value of research, as is evidenced by the fact that, from 1938 to 1940—that is, between the publication dates of the sixth and seventh editions of the National

Research Council's bulletin—the number of laboratories increased from 1,769 to 2,264, or 28 percent. The war has further accentuated the importance of experimental research; and although it curbed the activities of some laboratories and put a few out of business, it is a safe prediction that another substantial increase will be recorded in the eighth edition of the bulletin, now in preparation.

It was impracticable to canvass all the 2,264 laboratories listed, but the selection utilized in the current survey is as representative as it was possible to make it. Most of the companies maintaining large research organizations were included except where they involved undesirable duplication; and, in addition, an effort was made to secure ample representation of the smaller laboratories, of the several fields of research, and of the several industrial sections of the country. The final list contained 400 names, on which a 50 percent return has already been obtained. Of the responses 167 are adequate for systematic analysis.

Scientific activity can be most effectively assessed from publications, university relationships and sponsorship of meetings. Thus, three questions were asked:

1. What releases, bulletins, and other publications does your laboratory issue?
2. To what extent does your laboratory cooperate with, or use, the facilities and/or personnel of university laboratories?
3. Does your laboratory sponsor formal or informal staff meetings for the discussion of research in the fields of science pertinent to your industrial objectives?

The replies which have been received to each of these questions might well serve as the basis of several illuminating reports, but space permits only a summary treatment. In this number of the BULLETIN attention will be focused on publications and releases. Cooperation with universities and scientific meetings in laboratories will be discussed in ensuing issues.

At once the most striking and the most significant statistic regarding publications is the fact that 86 of the 167 laboratories answering this question stress the contributions which the members of their staffs make to established scientific, technical, and trade journals. One company points with justifiable pride to more than 2,000 scientific articles which its research staff has published since the laboratory was founded, and a second records more than 1,000. Another mentions 200 technical and scientific papers published in 1944 alone; others list 150, 54, 35—all within a single calendar year. Many directors of research emphasize that the scientific period-

icals are the only media employed for the publication of conclusions reached as a result of work performed in their laboratories. Only two state cautiously that "publication in scientific and technical journals is permitted." Thirty-two organizations neither sponsor nor encourage independent publication of work growing out of laboratory projects, but some of these have been severely restricted by the precautionary censorship which necessarily shrouded war projects.

Equally high values are placed by most of these research organizations on scientific and technical research performed by workers in other laboratories, and such research is followed closely. Sixteen of the laboratories abstract pertinent articles in the literature, circulating weekly or monthly "library bulletins" among the members of their staffs. In several cases these bulletins of abstracts have a much wider circulation, commonly on an exchange basis.

The following tabulation of returns does not pretend to be precise, if only because the question asked permitted some latitude of interpretation in formulating an answer. Yet the rather uniform way in which the replies were worded indicates that the numerical results reflect both the present situation and the current trend with a reliable degree of accuracy.

PUBLICATIONS SPONSORED BY 167 INDUSTRIAL LABORATORIES

Type of Publication	Number of Laboratories
Contributions to scientific, technical and trade journals	86
House Organs with general circulation	49
Technical	34
Popular	15
News releases and publicity	23
Technical reports for company consumption only	20
Technical reports with restricted outside circulation	12
Bulletins of abstracts	16
Books	9
No sponsored publications	33

The trend which these figures reveal is unmistakable. The industrial laboratories are making substantial contributions to pure science, if there is any useful distinction between what are known as pure and applied sciences. The magnitude of the contribution varies widely from laboratory to laboratory, but the sum of the contributions is large. Statistics on articles published in scientific journals were not solicited, but those voluntarily given in the responses show that one-tenth of the country's industrial laboratories makes an annual contribution in excess of 750 papers to scientific literature. It may be assumed that

their contribution to technological progress is no less impressive, for that is their primary function. It is more significant, therefore, that science should benefit so greatly, whether it be merely as a byproduct or as a coproduct. From the standpoint of output in scientific literature, quantitatively and qualitatively the industrial laboratories are advancing science as effectively as they are applying it.—H. A. M.

Nominations for Membership in the Association

Now that restrictions on the use of paper—if it can be found—for the publication of scientific journals has been removed, it will be possible for the Association to accept into membership as many persons who are eligible as make applications. During the past two years it has been difficult to supply back numbers of the journals to those whose memberships began in the summer months.

Fearing that restrictions on the use of suitable paper would continue into next year, the office of the permanent secretary has not made preparations to send out as many invitations to membership as usual. Consequently it is requested that, when they pay their dues (or at any other time), members make nominations for election to membership in the Association from among their relatives and friends. This statement does not imply that nominations to membership are rare. In recent years they have been received in increasing numbers and in a large percentage of cases the nominations have resulted in elections. Nor does it imply that direct applications for membership are not being received: they come in daily. Another interesting fact is that in the past year members have paid their dues more promptly than in any earlier year, with the result that it has not been necessary for the Association to go to the expense of rebilling so many as formerly.

With the close of the war a future extends before us whose obscuring mists are driven by a thousand diverse currents which we cannot penetrate. However, one thing appears to be certain: we are entering on a period of unparalleled scientific activity. As in the past, science will make rapid strides in many directions and technology will achieve marvels of which no one has even dreamed. But no one can assure us that we shall have pure hearts and serene minds. Yet these things, too, should flow from science for its most fundamental purpose is to put our understanding in tune with the eternal verities of the universe of which we are

a part. It should be—it is—an important function of the Association whose field of interest embraces all the science to give everyone, the profound specialist and the inquiring amateur alike, a wider horizon than any person ever had before our day. It is such an organization that invites you to nominate your relatives and friends to membership in it.

The Western Society of Naturalists

The organizational needs of the scientists of our far west have never been fully met by membership in national societies which hold plenary sessions, for the most part, east of the Mississippi River. The problem here presented has been solved both by the formation of western or Pacific "sections" of these national societies or by the creation of entirely new societies, designed primarily to serve the needs of our Pacific Coast territory. To the latter class belongs the Western Society of Naturalists. This active group was organized, though under a different name, more than thirty years ago. *Science* (Apr. 14, 1911) thus reports the first meeting of the "Biological Society of the Pacific Coast," in Berkeley, April 1, 1911:

"An afternoon meeting, at which papers were presented by President Jordan and Professor Zinsser, of Stanford University, and Professors Kofoed and Maxwell, of the University of California, was followed by a dinner at the Hotel Shattuck. . . .

"The Biological Society of the Pacific Coast begins with an active membership of seventy, representing California, Washington, Oregon, Arizona and Utah. . . . The officers of the society for 1911-12 are: Professor Vernon L. Kellogg, president; Professor H. B. Torrey, secretary-treasurer, and Professor H. J. [S.S.?] Maxwell, third member of the executive committee."

In 1915, the society conceived the idea of becoming a western branch of the American Society of Naturalists. The latter organization rejected these overtures, however, on the ground that the Pacific Coast group was less selective in its admission of members, a contention which doubtless had some foundation. It was shortly after this occurrence that the Biological Society of the Pacific Coast adopted its present name of Western Society of Naturalists. Under the latter name, the society held its first meeting with the Pacific Division of the American Association at San Diego in August, 1916, with Dr. B. W. Evermann as president.

This change of name did not imply any mimetic attitude toward the national organization just referred to. It expressed the conviction of the dominant group in the membership that the society should, in reality, be a society of *naturalists*. This object is well expressed by Article II of our constitution:

Section 1. The object of this Society shall be the stimulation of general interest in the fields of biological sciences. The Society shall be broad enough in its scope and liberal enough in its organization to enlist the cooperation of all biologists.

Section 2. The Society shall have two general functions:

(a) To provide opportunities for presentation and discussion of problems of common interest to biologists, seeking to emphasize broad advances in knowledge of concern to all workers in the field of biology, rather than development of technical procedures. In this respect, the Society shall attempt to exercise an integrative function which cannot be performed by more specialized organizations.

(b) To provide opportunities for formal or informal discussion of research of specialized character in which similar points of view and methods of attack are appropriate to the solution of diverse problems.

In order to maintain this "integrative function," the program committee is expressly assigned the duty of accepting or rejecting papers which are offered for presentation, according to whether or not they conform to the ideals here stated. The Western Society of Naturalists thus aligns itself with those scientific organizations which believe in controlling their programs in the interest of the majority of members in attendance.

Attempts have been made to change the name, or at least the scope, of the society on the part of persons who hold that a "society of naturalists" can hardly be regarded as an authentic scientific body at the present day. Such attempts have thus far been voted down by those who hold that the more specialized branches of biology are already well provided for by other societies and that we are in danger of losing sight of the organism amid the endless products of analysis.

At present, the chief yearly meeting of the W.S.N. is held at about the time of the Christmas holidays and consists both of symposia upon selected topics, discussed by invited speakers, and of voluntarily contributed papers. A midsummer meeting is also usually held in affiliation with the Pacific Division of the American Association for the Advancement of Science.

In some cases, symposia or other sessions have been held jointly with other organizations, such as the western divisions of the Ecological Society of America, the American Society of Ichthyologists and Herpetologists and the Society for Experimental Biology and Medicine. At times, excursions have been an important feature of the meetings.

Meetings have been held in most of the larger educational centers of the Pacific Coast states, and as far east as Salt Lake City. An attempt to establish local sections did not prove to be very successful.

The present membership is about 200, and the total attendance at the programs, while very variable, has occasionally nearly reached that figure. "Any person interested in the purposes of the Society as defined in Article II" is eligible for continued membership, as long as he pays the annual dues (\$1.00). The membership roll includes the majority of active biologists of Pacific Coast States, while most of the more active ones among these have probably been officers of the society at one time or another.—FRANCIS B. SUMNER.

Membership in the Association

Eligibility for Membership

Membership in the Association is open to all persons engaged in scientific work, whether in the fields of the natural or the social sciences; to all amateur scientists, whatever their special interests; and to all who desire to follow the advances of science and its effects upon civilization. Members having made substantial contributions to the advancement of science are eligible for election as fellows.

Dues and Publications

Membership dues are \$5 per year, including subscriptions for the monthly A.A.A.S. BULLETIN and either the weekly journal *Science*, now in its 102nd volume, or *The Scientific Monthly*, now in its 61st volume. *Science* is a journal for professional scientists; the *Monthly* is a nontechnical journal for the intelligent public. The Association also publishes technical symposia and nontechnical books on science that are available for members at prices substantially below those to the public.

Organization and Meetings

The Association was founded in 1848, with an initial membership of 461. Papers in its early programs were classified as either natural philosophy or natural history. Now its work is organized under 16 sections and 192 associated societies having a total membership of at least 500,000. Its annual meetings are the greatest regular gatherings of scientists in the world.

Nominations and Applications for Membership

Members may submit nominations for membership at any time, and persons desiring to become members can obtain membership application forms from the Office of the Permanent Secretary, the Smithsonian Institution Building, Washington 25, D. C.

Changes of Address

New addresses for the Association's record and for mailing the journals *Science* and *The Scientific Monthly*, as well as the A.A.A.S. BULLETIN, should be in the Office of the Permanent Secretary, Washington 25, D. C., at least three weeks in advance of the date when the change is to become effective.

Officers of the Association

President, Charles F. Kettering; *Permanent Secretary*, F. R. Moulton; *General Secretary*, Otis W. Caldwell; *Treasurer*, W. E. Wrather.

Executive Committee: Anton J. Carlson, *Chairman*; Roger Adams, Otis W. Caldwell, Arthur H. Compton, Charles F. Kettering, Burton E. Livingston, Kirtley F. Mather, Walter R. Miles, F. R. Moulton, Elvin C. Stakman, and W. E. Wrather.

